

[0183] The specification is most thoroughly understood in light of the teachings of the references cited within the specification, all of which are hereby incorporated by reference in their entirety. The embodiments within the specification provide an illustration of embodiments of the invention and should not be construed to limit the scope of the invention. The skilled artisan recognizes that many other embodiments are encompassed by the claimed invention and that it is intended that the specification and examples be considered as exemplary only, with a true scope and spirit of the invention being indicated by the following claims.

CLAIMS

1. A relational database comprising the data of Table I.
2. A method of staging embryos comprising:
 - a) providing at least one embryo;
 - b) detecting the expression in the embryo of at least one RNA transcript of Table I; and
 - c) correlating the expression of said transcript to one or more embryonic stages.
3. The method of claim 2 wherein at least two RNA transcripts are detected or determined and correlated to one or more embryonic stages.
4. The method of claim 2 wherein expression of the at least one RNA transcript is analyzed by hybridization with at least one probe of Table I.
5. The method of claim 2 wherein expression of the at least one RNA transcript is analyzed by hybridization with a variant of at least one probe of Table I.

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6. The method of claim 5 wherein said variant hybridizes to at least one probe of Table I under conditions of high stringency.
7. The method of claim 5 wherein said variant hybridizes to at least one probe of Table I under conditions of moderate stringency.
8. The method of claim 2 wherein expression of at least one RNA transcript is detected or determined by at least one member of the group consisting of PCR, Northern Analysis, and in situ hybridization.
9. The method of claim 2 wherein expression of said at least two RNA transcripts are detected by a DNA array.
10. A database comprising a multiplicity of nucleotide sequences shown in any one of Table I, including variants thereof, wherein said variants hybridize under conditions of high stringency to either strand of a denatured, double-stranded DNA comprising any of SEQ ID NOS: 1-327.
11. The database of claim 10 wherein said variants hybridize under conditions of moderate stringency.
12. A DNA array comprising a multiplicity of nucleotide sequences shown in Table I, including variants thereof, wherein said variants hybridize under conditions of high stringency to either strand of a denatured, double-stranded DNA comprising any of SEQ ID NOS: 1-327.
13. The DNA array of claim 12 wherein said variants hybridize under conditions of moderate stringency.

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14. A method for staging plant embryos comprising:
 - a) selecting total RNA from a multiplicity of embryos of known developmental age;
 - b) correlating the embryonic expression pattern to the developmental age to develop a relational database;
 - c) determining levels of expression from embryos of unknown developmental age by hybridization to a DNA array comprising a multiplicity of the nucleotide sequences shown in any one of SEQ ID NOS: 1-327;
 - d) correlating the expression pattern from step 3 to the relational database to determine developmental stage for the unknown embryo.
15. The method of claim 14 wherein the embryos of step 1) are zygotic embryos.
16. The method of claim 14 further comprising the step of altering the embryonic growth conditions to approximate the expression pattern of zygotic embryos.
17. An isolated nucleic acid variant of the nucleotide sequence shown in any one of SEQ ID NOS: 1-334, wherein said variant hybridizes under conditions of moderate stringency to either strand of a denatured, double-stranded DNA comprising any of SEQ ID NOS: 1-334.
18. An isolated polypeptide encoded by a nucleic acid molecule of claim 17.
19. An isolated nucleic acid encoding the polypeptide of claim 18.
20. Antibodies that specifically bind to the peptide of claim 18.
21. The antibodies of claim 20, wherein said antibodies are monoclonal.
22. A recombinant vector that directs the expression of a nucleic acid of claim 17.

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